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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,097	05/01/2001	Francois Trans	20870-06001	5771

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EXAMINER

BOCURE, TESFALDET

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/847,097

**Applicant(s)**

TRANS ET AL.

**Examiner**

Tessfaldet Bocure

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because the "abstract of the disclosure is long."

See highlighted portion to correct the deficiency in the abstract. Correction is required.

See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet **within the range of 50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. **The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.**

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. Applicant is reminded of the proper content of an abstract of the disclosure.

**A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains.** If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

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The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

4. In page one of the specification, under the title of the 'RELATED APPLICATIONS,' the related US patent application serial number 09/417,528 should be updated as---now issued as US patent number 6,553,085 on April 22, 2003---.

#### ***Allowable Subject Matter***

5. Claims 1-12 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The claimed subject matter in claims 1-10 is allowable because the arts of records fail to teach or fairly suggest the claimed "A system for reducing interference in a communication system, the interference occurring on a data sample signal having a precursor inter-symbol interference (ISI) portion and a post-cursor ISI portion, the system comprising: ; a *precursor canceller, for receiving said equalized estimated sample signal and said detected symbol signal, for further reducing the precursor interference, said precursor canceller having: a finite impulse response filter, for receiving said detected symbol signal and for determining the precursor ISI on said detected symbol signal to generate a precursor cancellation signal, a first delay*

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*component to receive said equalized estimated sample signal, for delaying said equalized estimated sample signal by a first amount and to output a delayed equalized estimated sample signal, said first amount corresponding to a delay caused by said slicer and finite impulse response filter, a DPIC summer to combine said precursor cancellation signal and said delayed equalized estimated sample signal to generate a second output signal representing said data sample signal having a reduced precursor interference portion; and in combination with the*

a first post-cursor canceller, for receiving said detected symbol signal, and for reducing the post-cursor interference on said detected symbol signal to generate said post-cursor cancellation signal; a first precursor equalizer, for receiving the data sample signal and for performing an equalization operation on said data sample signal to reduce the precursor ISI and to generate an ISI equalized sample signal; a summer, coupled to said first precursor equalizer, for combining said ISI equalized sample signal and a post-cursor cancellation signal to generate an equalized estimated sample signal; a slicer, coupled to said summer to receive said equalized estimated sample signal, for generating a detected symbol signal representing a preliminary symbol value of said equalized estimated sample signal as in claim 1."

### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 5,293,402 and 6144697 issued to Crespo et

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al. and Gelfand et al respectively disclose a receiver having equalizer for canceling precursor and postcursor interferences.

7. This application is in condition for allowance except for the following formal matters:

The objection to the specification as indicated above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (703) 305-4735. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

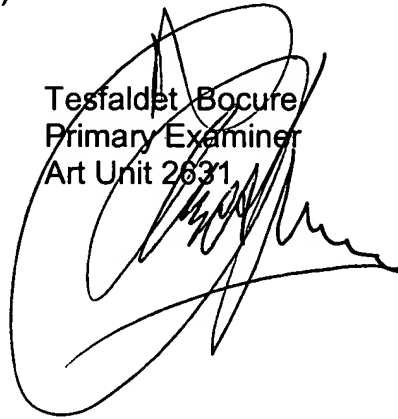
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tesfaldet Bocure  
Primary Examiner  
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T.Bocure

A large, stylized handwritten signature in black ink, overlapping the printed name and title of the examiner.